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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,317	06/24/2003	Linda A. Riedle	RPS920030083US1	9074

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EXAMINER	
PATEL, HETUL B	

ART UNIT	PAPER NUMBER
2186	

DATE MAILED: 07/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/602,317	RIEDLE ET AL.	
	Examiner	Art Unit	
	Hetul Patel	2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *06/24/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-36 are presented for examination.

2. The IDS filed on 06/24/2003 has been received and carefully considered.

3. The term "computer readable medium" in claims 24-36 is interpreted as "*tangible* computer readable medium" to avoid any misinterpretation under 35 USC 101.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-3 and 24-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-2 and 24-25 recite the limitation "the data storage system" in them. There is insufficient antecedent basis for this limitation in these claims.

Claim 3 recites the limitation "the RAID controller" in line 21 on page 13. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

> the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 10-12, 24 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO99/67713 (Applicant's Admitted Prior Art) hereinafter, AAPA in view of Lin (USPN: 5,511,184).

As per claim 1, AAPA teaches a method for providing a secure data storage system (shown in Figs. 2 and 3), wherein the data storage system is accessed by a processor (CPU 2, in Figs. 2-3), the method comprising the steps of: (a) creating a plurality of logical partitions (16, 18 and 20 in Fig. 5) and (c) hiding at least one partition from the processor (e.g. see the abstract). AAPA does not specifically disclose about creating a backup partition and backing up the logical partitions to the backup partition. However, this feature of step (b), i.e. creating a backup partition and backing up the logical partitions to the backup partition so the data can be retrieved from the backup partition in case of the data stored on one or more logical partitions get corrupted or lost, is well-known and notorious old in the art. The Examiner herein taking Official Notice on this subject matter.

The further limitation of step (d), i.e. "automatically blocking low-level physical drive write commands, thereby preventing a virus from using such a command to destroy data on the logical and backup partitions" is not taught by the AAPA. However, Lin discloses "prevention of a virus attack at boot time is achieved by write-protecting the storage devices of the system", i.e. blocking low-level physical drive write commands (e.g. see the abstract). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the current invention was made to implement the

teachings of Lin in AAPA's method so the data is prevented from a virus program that can destroy/corrupt the data stored on the storage devices. Therefore, it is advantageous.

As per claim 24, see arguments with respect to the rejection of claim 1. Claim 24 is also rejected based on the same rationale as the rejection of claim 1.

As per claim 10, the combination of AAPA and Lin teaches the claimed invention as described above and furthermore, AAPA teaches that the method further including the steps of: using a software utility, i.e. the boot up program, to enable a user to create the logical partitions and a backup partition, and to use a hide/unhide logical partition command to hide and unhide the backup partition (e.g. see the abstract).

As per claim 11, the combination of AAPA and Lin teaches the claimed invention as described above and furthermore, AAPA teaches that the method further including the step of: password protecting the hide/unhide logical partition command, i.e. only the authorized user(s) can isolate one or more virtual disk drives after entering a valid login password info (e.g. see page 16, lines 9+).

As per claim 12, the combination of AAPA and Lin teaches the claimed invention as described above and furthermore, AAPA teaches that the method further including the step of: storing the password for the hide/unhide logical partition command in an NVRAM (e.g. see page 12, lines 1-6).

As per claims 33-35, see arguments with respect to the rejection of claims 10-12, respectively. Claims 33-35 are also rejected based on the same rationale as the rejection of claims 10-12, respectively.

6. Claims 2-9, 13-23, 25-32 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Lin, further in view of Yuan et al. (USPN: 6,526,477) hereinafter, Yuan.

As per claim 2, the combination of AAPA and Lin teaches the claimed invention as described above and furthermore, AAPA teaches that the method further including the step of providing the data storage system as a RAID system (e.g. see page 9, lines 10-19). However, neither AAPA nor Lin disclose about using a RAID controller. Yuan, on the other hand, teaches a RAID controller (208 in Fig. 2A) coupled between the processor (202 in Fig. 2A) and a disk drive system (210 in Fig. 2A) (e.g. see Fig. 2A). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the current invention was made to implement Yuan's RAID controller in the method taught by AAPA and Lin so the data read and written from the disk drive system can be controlled by the RAID controller.

As per claim 3, the combination of AAPA and Lin teaches the claimed invention as described above. However, neither AAPA nor Lin disclose about providing the RAID controller with a write flag to block and unblock the low-level physical drive write commands. Yuan, on the other hand, teaches a RAID controller (208 in Fig. 2A) coupled between the processor (202 in Fig. 2A) and a disk drive system (210 in Fig. 2A) for controlling the accesses to the individual disk drives, i.e. physical disk drives (e.g. see Col. 2, lines 11-14 and Fig. 2A). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the current invention was made to implement Yuan's RAID controller in the method taught by AAPA and Lin so the data read and

written from the disk drive system can be controlled by the RAID controller. The further limitation of defaulting the write flag to a block setting at system reboot, i.e. preventing a virus attack at boot time by write-protecting the storage devices of the system, is taught by AAPA (e.g. see the abstract).

As per claim 4, the combination of AAPA, Lin and Yuan teaches the claimed invention as described above and furthermore, AAPA teaches that the step (d) further includes the step of: requiring a utility that utilizes the low-level physical drive write commands to first issue an unblock write command, i.e. the request to activate the virtual disk drive(s), to the RAID controller prior to issuing a low-level physical drive write command in order to set the write flag to unblock; and upon completion of the low-level physical drive write command, requiring the utility to issue a block write command to the RAID controller to re-block the low-level write command by setting the write flag to block, i.e. upon/until login of the different user (e.g. see page 16, lines 9-27).

As per claim 5, the combination of AAPA, Lin and Yuan teaches the claimed invention as described above and furthermore, AAPA teaches that the step (d) further includes the steps of: password protecting the block/unblock write command issued by the utility (e.g. see page 16, lines 9-27).

As per claim 6, the combination of AAPA, Lin and Yuan teaches the claimed invention as described above and furthermore, AAPA teaches that the step (d) further includes the step of: enabling backup partition configuration, i.e. isolating the virtual disk drive(s), by both a user and program control during normal operation (e.g. see Page 4, lines 12-15).

As per claim 14, see arguments with respect to the rejection of claims 1, 3 and 6. Claim 14 is also rejected based on the same rationale as the rejection of claims 1, 3 and 6.

As per claim 7, the combination of AAPA, Lin and Yuan teaches the claimed invention as described above and furthermore, AAPA teaches that the authorized login password is required in order to activate (i.e. block/unblock) the virtual disk drive(s) (e.g. see page 16, lines 9-18). As disclosed by Yuan in Fig. 2A, the RAID controller (208 in Fig. 2A) is coupled/connected in between the processor (202 in Fig. 2A) and the disk drive system (210 in Fig. 2A); therefore, the password entered by a user and the block/unblock command has to be forwarded to the RAID controller in order for taking appropriate action(s) on one or more partitions of the disk drive system.

As per claim 8, the combination of AAPA, Lin and Yuan teaches the claimed invention as described above and furthermore, AAPA teaches the method in which upon the request to activate the virtual disk drive(s) from a user, the login password is verified and upon verifying the authorized user, activating the virtual disk drive, i.e. storing the write flag as part of the RAID configuration attributes within the RAID controller, until the login of the different user (e.g. see page 16, lines 9-27).

As per claim 9, the combination of AAPA, Lin and Yuan teaches the claimed invention as described above and furthermore, AAPA teaches that the step (d) further includes the step of: storing the write flag and a user password for the block/unblock write command in an NVRAM (e.g. see page 12, lines 1-6).

As per claims 25-32, see arguments with respect to the rejection of claims 2-9, respectively. Claims 25-32 are also rejected based on the same rationale as the rejection of claims 2-9, respectively.

As per claim 13, the combination of AAPA and Lin teaches the claimed invention as described above and furthermore, AAPA teaches that the method further including the steps of: (e) after one or more of the logical partitions has been corrupted, allowing a user to boot the system using the utility software, i.e. the boot up program and to use a hide/unhide logical partition command to hide and unhide the backup partition (e.g. see page 7, line 25 – page 8, line 8 and the abstract). However, neither AAPA nor Lin disclose about using a RAID controller. Yuan, on the other hand, teaches a RAID controller (208 in Fig. 2A) coupled between the processor (202 in Fig. 2A) and a disk drive system (210 in Fig. 2A) (e.g. see Fig. 2A). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the current invention was made to implement Yuan's RAID controller in the method taught by AAPA and Lin so the data read and written from the disk drive system can be controlled by the RAID controller.

AAPA further teaches that the authorized login password is required in order to activate (i.e. block/unblock) the virtual disk drive(s) (e.g. see page 16, lines 9-18). As disclosed by Yuan in Fig. 2A, the RAID controller (208 in Fig. 2A) is coupled/connected in between the processor (202 in Fig. 2A) and the disk drive system (210 in Fig. 2A); therefore, the password entered by a user and the block/unblock command has to be forwarded to the RAID controller in order for taking appropriate action(s) on one or more partitions of the disk drive system, i.e. step (f) as claimed. The step (g) for restoring the

corrupted logical partition from the backup partition is well known and notorious old in the art at the time of the current invention was made and used for to retrieve the data which is lost or corrupted (e.g. see AAPA, page 3, lines 1-9). The Examiner herein taking Official Notice on this subject matter.

As per claims 15-23, see arguments with respect to the rejection of claims 4-5 and 7-13, respectively. Claims 15-23 are also rejected based on the same rationale as the rejection of claims 4-5 and 7-13, respectively.

As per claim 36, see arguments with respect to the rejection of claim 13. Claim 36 is also rejected based on the same rationale as the rejection of claim 13.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hetul Patel whose telephone number is 571-272-4184. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER